Software Release Notice

System: WGS **Release:** NASA 2.07
Date: 19 July 99

Modification Description:

Wallops Station Upgrade

The following changes are planned for Wallops Ground Station software. This release contains test programs to diagnosis reported problems. Modifications that have been completed since the NASA2.05 release.

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1. On the tape log screen, the option to close screen with the '-' was removed because this would close the SCC software.
2. Corrected bug in scheduling supports characterized by the following actions. When using the scheduler, choose a satellite and push the "Pass Gen" button. All orbits for that satellite are displayed. Choose an orbit, push the "Copy pass" button, and then push the "Cancel" button to not schedule the support. If you now choose a different orbit and push the "copy pass", you'll get the same AOS and LOS time as for the first orbit.
3. Corrected where X-Band Track Marconi would only configure to the frequency in the default and not to the frequency specified from the configuration screen. Associated with this fix is a tool to fix all the corrupted configuration files.
4. Allow support for up to 100 Satellites and add graceful degradation if more than 100 Satellites are tried.
5. Corrected the track analysis problem that showed low elevation droop in the elevation delta. Changed orbit predictor from SA predictor to SGP4.
6. Enhanced software for the Marconi Local Oscillator generator so that it provides a selection for remote R.F. reference frequency.
7. Added track time bias per Satellite.
8. Removed the shortened prepass when track is scheduled close to pass time. This will ensure that the uplink equipment will be configured.
9. Enhanced the control of NTP. When time on top level is in red, the time is not synchronized with NTP. When it is in green, time is synchronized with NTP. Changing the time from the SCC will stop NTP. Restart NTP by pressing the start NTP time button.
10. Enhanced scheduler to allow orbit zero.
11. Corrected scheduler bug that improperly changes the recorder start time to the beginning of scheduled pass time.
12. Improved I/O handler to recognize and recover from 'Broken pipe'.
13. Removed shortened prepass feature which would not allow uplink to work for passes scheduled close to current time or by restarting the code close to or in the middle of a pass.
14. Added code to clear RF Frequency field on receiver GUI upon entering screen so that invalid value will not be displayed if the unit is off line.

Files Affected:

The files that were developed and/or utilized as part of NASA 2.07 are listed in Attachment 1: NASA 2.07 FILES.

Hardware Requirements:

N/A

Validation Procedures:

NASA 2.07 will be validated through continued daily testing at NASA/Wallops/11m for scheduled satellite passes. In addition, the following actions can be performed to validate some upgrades included in this release:

1. Verify that option to close the tape log screen with the '-' was removed.
2. Verify that when using the scheduler, choose a satellite and push the "Pass Gen" button. All orbits for that satellite are displayed. Choose an orbit, push the "Copy pass" button, and then push the "Cancel" button to not schedule the support. If you now choose a different orbit and push the "copy pass", you get the different AOS and LOS time from the first orbit.
3. Verify that the X-Band Track Marconi will configure to a frequency other than the default frequency.
4. View a track analysis and see that the low elevation droop in the elevation delta is gone.
5. Verify that a selection for remote R.F. reference frequency for the Marconi Local Oscillator generator works.
6. Enter in different time bias for each satellite and observe the time bias change at prepass.
7. Schedule a pass with uplink enabled in the configuration file just before the pass is to begin and verify that uplink is active.
8. Change time using the Maintenance/Station Clock menu, and verify the time on top level is highlighted red. Hit the UTC/Start NTP button on the Maintenance/Station Clock menu and verify the time on the top level is highlighted in green.
9. Reschedule a pass with recorders scheduled just before the pass is to begin, verify the recorder start times did not changes to the new pass start time.

Known Bugs or Limitaions:

Some open DRs may not be resolved in this release due to equipment constraints.

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Installation Procedure:

To install this release, create a rel2.07 directory in the /home/aaas/releases directory. Copy Install and nasa2.07.tar.Z in to this directory. From /home/aaas/releases/rel2.07, run ./Install nasa2.07.

The installation script will create new bin and etc directories modify the bin and etc links to look at the new release directories. The old etc directory will be copied to the new etc directory. New executables will be placed in the new bin directory. The following new default files will replace the old default files: sbandSynth.defaults, xbandCh1Synth.defaults, xbandCh2Synth.defaults, xbandCh3Synth.defaults, xbandCh4Synth.defaults, xbandTestSynth.defaults, xbandTrackSynth.defaults. Fixconfig will be run on the configuration files to fix possible

corruptions related to the Marconi Track Synthesizer. NTP scripts will be copied in to the root directory.

The .ntpSyncInfo and .start_ntp files in the root directory (cd /) need to be modified for the correct time server IP address.

In the /home/aaas directory, edit the .cshrc file. Edit the station environment variable to identify the station: setenv Station "WGS 11m".

Documentation Affected:

N/A

Comments:

Pam Beard will support this software installation from S-A and her number is (770) 903-2164.

Approval:

The software modifications described in this release notice has been validated and accepted.

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NASA WGS Project Manager Date

SOFTWARE RELEASED:

The software modifications described in this release notice have been completed and released to ground station operations.

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System Manager Date

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NASA Program Monitor Date

Attachment 1
NASA 2.07 Files

The bin Directory:

```
AntennaControlStartup
Displays
Nasa
NasaStart
Start
Stop
authent
configud
control
dpsHndlr
errhandler
eup
executive
file.lst
getNtpSyncInfo
ioh
pcltrans
pedcont
postPassShell
rci_client
rci_rmt
rci_server
reccon
recsch
resetLANGateway
rmqs
schedmon
snyHndlr
start.awk
start_ntp
status_l
stop.awk
stop_ntp
sup
tapelog
terminal
testexec
time_code_handler
track
uactask
winPrint
```

The etc Directory:

The etc/hpib directory:

N/A

The etc/config directory:

fixconfig

The etc/defaults directory:

sbandSynth.defaults
xbandCh1Synth.defaults
xbandCh2Synth.defaults
xbandCh3Synth.defaults
xbandCh4Synth.defaults
xbandTestSynth.defaults
xbandTrackSynth.defaults

The / directory:
.ntpSyncInfo
.start_ntp
.stop_ntp